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| 09/206,971 | 12/08/1998 | MITSUO SAKURAI | Q52075 | 6180 |

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| EXAMINER |
|---|
| POON, KING Y |

| ART UNIT | PAPER NUMBER |
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| 2624 | |

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/206,971 | SAKURAI, MITSUO | |
| | Examiner | Art Unit | |
| | King Y. Poon | 2624 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *31 December 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,11-16 and 21-30* is/are rejected.

7)☒ Claim(s) *7-10 and 17-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1-4, 11-14, 21-24, 26-28, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Miller et al (US 5,731,823).

Regarding claim 1: Miller teaches a printer control circuit, (controller 30, column 4, line 43) which is a dedicated printer control hardware circuit between an upper apparatus (host computer, column 4, lines 45-50) and a printer, the printer connected with the controller 30, fig. 1) comprising: a halftoning circuit (the program of the controller 30 that performs step 68, fig. 3B) for performing a halftone process to convert high-resolution raster data, (66, fig. 3B)for a first image element, (photograph, column 9, lines 30-40) that are transmitted from the upper apparatus into first low-resolution raster data; (72, fig. 3B) and an image completion circuit (75, fig. 3B)for obtaining low-resolution raster data (the halftone process of graphic region, column 9, lines 25-40, fig. 3A and 3B, that are processed by the host, column 4, lines 45-55) for a complete print image employing second low-resolution raster data, for a second image element, (graphic

region, column 9, lines 25-40) that are transmitted from the upper apparatus, and the first low-resolution raster data, for the first image element, that are transmitted from the halftoning circuit. (Column 5, lines 55-60, image 42 containing different regions fig. 2 are printed together on a print medium)

Regarding claim 2: Miller teaches wherein the first image element is an illustration, (photograph, column 6, line 39) and the second image element constitutes characters and graphics. (Column 6, lines 30-35)

Regarding claim 3: Miller teaches wherein the high resolution raster data (66, fig. 3B)for the first image element, (photograph, column 9, lines 30-40) which are transmitted from the upper apparatus, (host computer, column 4, lines 45-50) are expressed using an upper apparatus display color system (monitor, column 4, lines 25-30) that differs from a printer display color system (RGB is different from CMY, column 4, lines 20-25) that is employed by the printer; wherein the second lows resolution raster data (the halftone process of graphic region, column 9, lines 25-40, fig. 3A and 3B, that are processed by the host, column 4, lines 45-55) for the second image element, which are transmitted from the upper apparatus, are expressed using the printer display color system; (the process of 50, halftone, is carried out in the host, column 4, lines 45-55) and wherein the halftoning circuit (68, fig. 3B) also performs color conversion for the high-resolution raster data for the first image element that is transmitted from the upper apparatus display color system to the printer display color system. (Process 50 of fig. 3A and 3B are for transforming RGB into CMY, printer display color system, column 4, lines 10-25, column 4, lines 42-50).

Regarding claim 4: Miller teaches wherein for the low-resolution raster data for the complete print image the image completion circuit (75, fig. 3B) changes pixel order (see some pixel are printed earlier than others in shingling mode printing, column 9, lines 65-67, column 10, lines 1-5) for interlaced printing. (Shingling, column 10, lines 1-5)

Regarding claim 11: Miller teaches a printer (fig. 1) comprising: a dedicated hardware circuit (controller 30, column 4, line 43) for processing image data that are received from an upper apparatus, (host computer, column 4, lines 45-50) the dedicated hardware circuit including a halftoning circuit (the program of the controller 30 that perform step 68, fig. 3B) for performing halftoning for high-resolution raster data (66, fig., 3B) for a first image element (photograph, column 9, lines 30-40) received from the upper apparatus and obtaining first low-resolution raster data; (72, fig. 3B) and an image completion circuit (75, fig. 3B) for obtaining low-resolution raster data (the halftone process of graphic region, column 9, lines 25-40, fig. 3A and 3B, that are processed by the host, column 4, lines 45-55) for a complete print image from second low-resolution raster data that are received from the upper apparatus for a second image element, (graphic region, column 9, lines 25-40) and the first low-resolution raster data that are received from the halftoning circuit for the first image element, (Column 5, lines 55-60, image 42 containing different regions fig. 2 are printed together on a print medium), wherein printing is performed using the low-resolution raster data that are obtained by the dedicated hardware circuit for the complete print image.

Regarding claim 12: Miller teaches wherein the first image element is an illustration, (photograph, column 6, line 39) and the second image element constitutes characters and graphics. (Column 6, lines 30-35)

Regarding claim 13: Miller teaches wherein the high resolution raster data (66, fig. 3B)for the first image element, (photograph, column 9, lines 30-40) which are transmitted from the upper apparatus, (host computer, column 4, lines 45-50) are expressed using an upper apparatus display color system (monitor, column 4, lines 25-30) that differs from a printer display color system (RGB is different from CMY, column 4, lines 20-25) that is employed by the printer; wherein the second lows resolution raster data (the halftone process of graphic region, column 9, lines 25-40, fig. 3A and 3B, that are processed by the host, column 4, lines 45-55) for the second image element, which are transmitted from the upper apparatus, are expressed using the printer display color system; (the process of 50, halftone, is carried out in the host, column 4, lines 45-55) and wherein the halftoning circuit (68, fig. 3B) also performs color conversion for the high-resolution raster data for the first image element that is transmitted from the upper apparatus display color system to the printer display color system. (Process 50 of fig. 3A and 3B are for transforming RGB into CMY, printer display color system, column 4, lines 10-25, column 4, lines 42-50).

Regarding claim 14: Miller teaches wherein for the low-resolution raster data for the complete print image the image completion circuit (75, fig. 3B) changes pixel order (see some pixel are printed earlier than others in shingling mode printing, column 9, lines 65-67, column 10, lines 1-5) for interlaced printing. (Shingling, column 10, lines 1-5)

Regarding claim 21: Miller teaches a printing system comprising: an upper apparatus; (host computer, column 4, lines 45-50) a printer; (fig. 1) and a dedicated printer control hardware circuit (controller 30, column 4, line 43) located in between the upper apparatus and the printer, dedicated hardware circuit including: a halftoning circuit (the program of the controller 30 that performs step 68, fig. 3B) for performing halftoning for high-resolution raster data (66, fig., 3B) for a first image element (photograph, column 9, lines 30-40) received from the upper apparatus and obtaining first low-resolution raster data; (72, fig. 3B) and an image completion circuit (75, fig. 3B) for obtaining low-resolution raster data (the halftone process of graphic region, column 9, lines 25-40, fig. 3A and 3B, that are processed by the host, column 4, lines 45-55) for a complete print image from second low-resolution raster data that are received from the upper apparatus for a second image element, (graphic region, column 9, lines 25-40) and the first low-resolution raster data that are received from the halftoning circuit for the first image element. (Column 5, lines 55-60, image 42 containing different regions fig. 2 are printed together on a print medium)

Regarding claim 22: Miller teaches wherein the first image element is an illustration, (photograph, column 6, line 39) and the second image element constitutes characters and graphics. (Column 6, lines 30-35)

Regarding claim 23: Miller teaches wherein the high resolution raster data (66, fig. 3B)for the first image element, (photograph, column 9, lines 30-40) which are transmitted from the upper apparatus, (host computer, column 4, lines 45-50) are expressed using an upper apparatus display color system (monitor, column 4, lines 25-30) that differs from a printer display color system

(RGB is different from CMY, column 4, lines 20-25) that is employed by the printer; wherein the second lows resolution raster data (the halftone process of graphic region, column 9, lines 25-40, fig. 3A and 3B, that are processed by the host, column 4, lines 45-55) for the second image element, which are transmitted from the upper apparatus, are expressed using the printer display color system; (the process of 50, halftone, is carried out in the host, column 4, lines 45-55) and wherein the halftoning circuit (68, fig. 3B) also performs color conversion for the high-resolution raster data for the first image element that is transmitted from the upper apparatus display color system to the printer display color system. (Process 50 of fig. 3A and 3B are for transforming RGB into CMY, printer display color system, column 4, lines 10-25, column 4, lines 42-50).

Regarding claim 24: Miller teaches wherein for the low-resolution raster data for the complete print image the image completion circuit (75, fig. 3B) changes pixel order (see some pixel are printed earlier than others in shingling mode printing, column 9, lines 65-67, column 10, lines 1-5) for interlaced printing. (Shingling, column 10, lines 1-5)

Regarding claim 26: Miller teaches an upper apparatus, (host computer, column 4, lines 45-50) for a printing system for outputting image data (column 4, lines 60-67) to be printed by a printer, (fig. 1) that outputs high-resolution raster data (66, fig. 3B, the processing step before 66 is processed in the host, column 4, lines 42-55) for a first image element (photograph, column 9, lines 30-40) included in a print image (42, fig. 2) and low-resolution raster data (the halftone process of graphic region, column 9, lines 25-40, fig. 3A and 3B, that are processed by the host,

column 4, lines 45-55) for which halftoning has been processed for a second image element (graphic region, column 9, lines 25-40) included in the print image.

Regarding claim 27: Miller teaches wherein the first image element is an illustration, (photograph, column 6, line 39) and the second image element constitutes characters and graphics. (Column 6, lines 30-35).

Regarding claim 28: Miller teaches the upper apparatus expresses the high resolution raster data for the first image element using an upper apparatus display color system (RGB of monitor, column 4, lines 20-30) that differs from a printer display color system (CMY, column 4, lines 20-25) that is employed by the printer, and which expresses the low-resolution raster data for the second image element using the printer display color system. (After halftoning, the low resolution raster data are represented in a color that is to be printed by the printer)

Regarding claim 30: Claim 30 is claiming a computer readable medium for storing the program step of the computer discussed in claim 26. Please see discussion on claim 26.

Regarding claims 31-35: Miller teaches wherein the low resolution raster data for the second image element is generated by performing a halftone process in the upper apparatus. (Column 4, lines 45-50)

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5, 6, 15, 16, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller as applied to claims 1, 11, 21 above, and further in view of Schoon (US 4,857,904).

Regarding claims 5, 15, 25: Miller teaches wherein the image completion circuit obtains the low-resolution raster data (70, fig. 3B) for the complete print image, and wherein the first low-resolution raster data for the first image element and the second low-resolution raster data for the second image element are superimposed in the image completion circuit. (See differently halftoned imaged, column 9, lines 30-40 are superimposed into 75, of fig. 3B)

Miller does not teach a memory for the image completion circuit for storing data.

Schoon, in the same area of printing, teaches to use a memory for storing printing information. (Column 10, lines 25-35)

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Miller's printer control circuit to include a memory for the image completion circuit to store data.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Miller's printer control circuit by the teaching of Schoon because of the following reasons: (a) it would have prevented the printing information being lost before the printer complete the printing process; and (b) by storing the image data, it would have allowed the image completion circuit to have enough time to process the printing information.

Regarding claims 6, 16: Miller teaches wherein, when the image completion circuit is writing (print halftone page image, 75, fig. 3B, column 10, lines 1-5) one of the first low-resolution raster data for the first image element and the second low-resolution raster data for the second image element, the image completion circuit holds the other of the first and second low-resolution raster image data that are to be written to the memory. (See discussion of claim 5)

5. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller as applied to claim 26 above, and further in view of Furuya et al (US 6,304,335).

Regarding claim 29: Miller does not teach the upper apparatus sequentially transmits the high-resolution raster image for the first image element and the low-resolution raster data for the second image element, and which, for a raster having the first image element or second image element not available, transmits a raster end command for instructing raster termination of a pertinent image element.

Furuya, in the same area of printing teaches a host computer sequentially transmits image to a printer (column 7, lines 5-20) and for an image that is unavailable, transmits an end command for instructing termination of the image. (Column 8, lines 1-10)

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Miller's host computer to include: sequentially transmits the high-resolution raster image for the first image element and the low-resolution raster data for the second image element, and which, for a raster having the first image element or second image

element not available, transmits a raster end command for instructing raster termination of a pertinent image element.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Miller's host computer by the teaching of Furuya because of the following reasons: (a) it would have allowed the printer to easily keeping track of the image data sent, and thereby reduces the cost of the printer for not having to use complicated circuits in the printer to sort out the received data; and (b) using an end command would have prevented the host from continuously sending data when there is not data to send to improve system throughput.

***Allowable Subject Matter***

6. Claims 7-10, 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 7, 8, 17, 18: Miller (US 5,731,823) teaches a printer control circuit, which is a dedicated printer control hardware circuit between an upper apparatus and a printer, the printer connected with the controller comprising: a halftoning circuit for performing a halftone process to convert high-resolution raster data, for a first image element, that are transmitted from the upper apparatus into first low-resolution raster data; and an image completion circuit for

obtaining low-resolution raster data for a complete print image employing second low-resolution raster data, for a second image element, that are transmitted from the upper apparatus, and the first low-resolution raster data, for the first image element, that are transmitted from the halftoning circuit.

Miller does not teach wherein said high resolution raster data for the first image element and the second low-resolution raster data for the second image element are sequentially transmitted by the upper apparatus; and wherein, when the image completion circuit recognizes that raster data both for the first and for the second image elements have been rasterized, the image completion circuit increments a vertical address for designating a location in the memory for writing the raster data, and superimposes and writes, at the same vertical address in the memory, the raster data for the first and the second image elements for the same raster.

Regarding claim 9, and 19: Miller (US 5,731,823) teaches a printer control circuit, which is a dedicated printer control hardware circuit between an upper apparatus and a printer, the printer connected with the controller comprising: a halftoning circuit for performing a halftone process to convert high-resolution raster data, for a first image element, that are transmitted from the upper apparatus into first low-resolution raster data; and an image completion circuit for obtaining low-resolution raster data for a complete print image employing second low-resolution raster data, for a second image element, that are transmitted from the upper apparatus, and the first low-resolution raster data, for the first image element, that are transmitted from the halftoning circuit.

Miller does not teach wherein, in order to develop the low-resolution raster data for the complete print image, the memory has a capacity that is large enough to store all the raster data in a range that is equivalent to one where the print head of the printer covers two paths; and wherein, while the image completion circuit reads raster data stored in the memory that the print head requires for the current path, the image completion circuit writes raster data in the memory until the last raster that the print head requires for the next path is reached.

Regarding claims 10, and 20: Miller (US 5,731,823) teaches a printer control circuit, which is a dedicated printer control hardware circuit between an upper apparatus and a printer, the printer connected with the controller comprising: a halftoning circuit for performing a halftone process to convert high-resolution raster data, for a first image element, that are transmitted from the upper apparatus into first low-resolution raster data; and an image completion circuit for obtaining low-resolution raster data for a complete print image employing second low-resolution raster data, for a second image element, that are transmitted from the upper apparatus, and the first low-resolution raster data, for the first image element, that are transmitted from the halftoning circuit.

Miller does not teach wherein the image completion circuit writes raster data to the memory in an OR write mode; and wherein the image completion circuit reads raster mode from the memory in a clear read mode during the last reading cycle for each raster, and in a normal read mode during a reading cycle other than the last reading cycle.

***Response to Arguments***

8. Applicant's arguments on rejections of claims 1-4, 11-14, 21-24, 26-28, and 30 filed on 1/6/2003 have been fully considered but they are not persuasive.

With respect to applicant's argument that Miller does not teach an image of high resolution data is converted into the low resolution data, and a second image element is a low resolution data, has been considered.

In reply: Page 2, lines 1-8, of the specification, admits that in a conventional printing system, halftoning is a process of converting high resolution pixel values to low resolution pixel values.

Therefore, the halftoning process of Miller, (104, 68, 72, fig. 3B) is a process of converting high resolution pixel values to low resolution pixel values. Accordingly, data 66, fig. 3, that is to be halftoned is a high resolution data, and the halftoned data is a low resolution data.

Miller column 9, lines 25-40, teaches different halftone steps to be performed on different images. Miller, column 4, lines 40-50 teaches the halftone steps would be performed in the host computer. Therefore, the halftoned second image data that is performed by the host is a low resolution data.

With respect to applicant's argument that Miller and Schoon fails to teach storing superimposed first and second raster data into memory, has been considered.

In reply: Miller teaches wherein the first low-resolution raster data for the first image element and the second low-resolution raster data for the second image element are superimposed

in the image completion circuit. (See differently halftoned imaged, column 9, lines 30-40 are superimposed into 75, of fig. 3B)

Miller does not teach a memory for the image completion circuit for storing data.

Schoon, in the same area of printing, teaches to use a memory for storing printing information. (Column 10, lines 25-35)

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Miller's printer control circuit to include a memory for the image completion circuit to the superimposed first and second raster data.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Miller's printer control circuit by the teaching of Schoon because of the following reasons: (a) it would have prevented the printing information being lost before the printer complete the printing process; and (b) by storing the image data, it would have allowed the image completion circuit to have enough time to process the printing information.

With respect to applicant's argument that Furuya does not teach transmitting a raster end command for instructing raster termination of a pertinent image element when a first or second image element is not available.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Miller teaches an upper apparatus, (host computer, column 4, lines 45-50) for a printing system for outputting image data (column 4, lines 60-67) to be printed by a printer, (fig. 1) that outputs high-resolution raster data (66, fig. 3B, the processing step before 66 is processed in the host, column 4, lines 42-55) for a first image element (photograph, column 9, lines 30-40) included in a print image (42, fig. 2) and low-resolution raster data (the halftone process of graphic region, column 9, lines 25-40, fig. 3A and 3B, that are processed by the host, column 4, lines 45-55) for which halftoning has been processed for a second image element (graphic region, column 9, lines 25-40) included in the print image.

Miller does not teach the upper apparatus sequentially transmits the high-resolution raster image for the first image element and the low-resolution raster data for the second image element, and which, for a raster having the first image element or second image element not available, transmits a raster end command for instructing raster termination of a pertinent image element.

Furuya, in the same area of printing teaches a host computer sequentially transmits image to a printer (column 7, lines 5-20) and for an image that is unavailable, transmits an end command for instructing termination of the image. (Column 8, lines 1-10)

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Miller's host computer to include: sequentially transmits the high-resolution raster image for the first image element and the low-resolution raster data for the second image element, and which, for a raster having the first image element or second image

element not available, transmits a raster end command for instructing raster termination of a pertinent image element.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Miller's host computer by the teaching of Furuya because of the following reasons: (a) it would have allowed the printer to easily keeping track of the image data sent, and thereby reduces the cost of the printer for not having to use complicated circuits in the printer to sort out the received data; and (b) using an end command would have prevented the host from continuously sending data when there is not data to send to improve system throughput.

Action is Final, Necessitated by Amendment

9. Applicant's amendment necessitated the new ground of rejection presented in this office action. Therefore, THIS ACTION IS MADE FINAL. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTHS shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shin (US 6,351,320) teaches to separately processing different print elements.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to King Y. Poon whose telephone number is (703) 305-0892 or to Supervisor Mr. David Moore whose phone number is (703) 308-7452.

GABRIEL GARCIA
PRIMARY EXAMINER

March 19, 2003